

WHAT IS CLAIMED IS:

1. A magnet for an NMR analyzer, in which an electric conductor is wound around an axis as a magnetic axis, and by turning on the electric conductor, a magnetic field that includes a measurement space 3 for conducting measurement is generated in the space surrounded by the electric conductor, wherein

10 said electric conductor is wound such that a magnet comprises a first access port through which access from the outside of the magnet to said measurement space is possible via the vicinity of said magnet axis and a second access port which enables access in the direction different from that of the first access port, and said electric conductor does not interfere with the area where first and second access ports are located; and when the sizes of the first and second access ports are compared based on the definition that the effective diameter of the first and second access ports is the diameter of a cylinder which can be inserted into the access port, the effective diameter of the second access port is smaller than that of the first access port.

25 2. A magnet for an NMR analyzer, in which a first coil in which an electric conductor is wound around an

axis as a magnetic axis is disposed facing a second coil which is formed in the same manner as the first coil and wound around the same axis, and a magnetic field that includes a measurement space is formed 5 inside the space surrounded by the first and second coils, wherein

the magnet has a first access port through which access to said measurement space is possible in the direction of said magnetic axis and also a second 10 access port, which enables access in the direction different from that of the first access port, in a clearance between the first coil and the second coil; and when the sizes of the first and second access 15 ports are compared based on the definition that the effective diameter of the first and second access ports is the diameter of a cylinder which can be inserted into the access port, the effective diameter of the second access port is smaller than that of the first access port.

20 3. A magnet for an NMR analyzer according to claim 1, wherein said second access port passes through the magnet.

4. A magnet for an NMR analyzer according to claim 1, comprising at least one superconducting coil.

25 5. A magnet for an NMR analyzer according to claim

1, wherein said magnetic axis is oriented horizontally.

6. A magnet for an NMR analyzer according to claim
5, wherein said first access port is oriented
horizontally and said second access port is not
5 positioned vertically.

7. A magnet for an NMR analyzer according to claim
1, comprising a third access port different from said
first and second access ports.

8. A magnet for an NMR analyzer according to claim
10 7, wherein said third access port passes through the
measurement space and passes through said magnet.

9. A magnet for an NMR analyzer according to claim
1, comprising more than one access port having a non-
circular sectional view.

15 10. An NMR analyzer comprising a magnet for an NMR
analyzer according to claim 1.

11. An NMR analyzer according to claim 10, wherein
a probe having a solenoid-type detection coil for
measuring an NMR signal is inserted from a first
20 access port, a sample to be measured is inserted from
a second access port, and the positions of the probe
and the sample meet in said measurement space so that
NMR measurement can be conducted.

12. An NMR analyzer comprising a magnet in which
25 an electric conductor is wound around an axis as a

magnetic axis, and by turning on the electric conductor, a magnetic field that includes a measurement space is generated in the space including said magnetic axis and surrounded by said electric

5 conductor; a first access port for accessing said measurement space in the axial direction; and a second access port which enables access in the different direction from the first access port, wherein

10 a probe having a solenoid-type detection coil for measuring an NMR signal is inserted from the first access port, and a sample to be measured is inserted from the second access port, and the positions of said probe and said sample meet in said measurement space so that NMR measurement can be conducted.

15 13. An NMR analyzer comprising a magnet for an NMR analyzer in which a first coil in which an electric conductor is wound around an axis as a magnetic axis is disposed facing a second coil which is formed in the same manner as the first coil and wound around the 20 same axis, and a magnetic field that includes a measurement space is formed inside the space surrounded by the first and second coils; a first access port through which access to said measurement space is possible in the direction of said magnetic 25 axis; and a second access port which enables access in

the different direction from the first access port;
wherein

5 a probe having a solenoid-type detection coil for
measuring an NMR signal is inserted from a first
access port, and a sample to be measured is inserted
from a second access port, and the positions of said
probe and said sample meet in said measurement space
so that NMR measurement can be conducted.

10 14. An NMR analyzer according to claim 12, wherein
said second access port passes through the magnet.

15 15. An NMR analyzer according to claim 12, 13 or
14, wherein said magnet comprises at least one
superconducting coil.

16. An NMR analyzer according to claim 12, wherein
said magnet is positioned so that said magnetic axis
is oriented horizontally.

17. An NMR analyzer according to claim 12, wherein
said first access port is oriented horizontally and
said second access port is not vertically oriented.

20 18. An NMR analyzer according to claim 12, further
comprising a third access port different from said
first and second access ports.

25 19. An NMR analyzer according to claim 18, wherein
said third access port passes through said measurement
space and passes through the magnet.

20. An NMR analyzer according to claim 12,
comprising more than one access port having a non-
circular sectional view.